UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

HUAWEI TECHNOLOGIES CO. LTD., **Plaintiff** **v.** **T-MOBILE US, INC. and T-MOBILE USA, INC.,** **Defendants, and** **NOKIA SOLUTIONS AND NETWORKS US LLC, NOKIA SOLUTIONS AND NETWORKS OY, TELEFONAKTIEBOLAGET LM ERICSSON, and ERICSSON INC.,** **Intervenors.**	**Civil Action No. 2:16-cv-00052** **Jury Trial Demanded**

DEFENDANTS AND INTERVENORS' RESPONSIVE CLAIM CONSTRUCTION BRIEF UNDER P.R. 4-5(b)

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INTRODUCTION

Rather than focus on the issue at hand—claim construction—Huawei opens its brief with inaccurate characterizations of its purported contributions to the telecommunications industry.[1] Defendants and Intervenors, in contrast, move directly to Huawei's claim construction arguments for U.S. Patent Nos. 8,719,617 ("the 617 Patent"), 8,069,365 ("the 365 Patent"), and 8,867,339 ("the 339 Patent"), which are inconsistent with the Federal Circuit's established claim construction principles.

First, Huawei ignores the clear language of the claims themselves and imports language from the specification to narrow the meaning of the terms. *See Global Equity Mgmt. (SA) Pty. Ltd. v. Expedia, Inc.*, No. 2:16-CV-00095-RWS-RSP, 2016 WL 7416132, at *7 (E.D. Tex. Dec. 22, 2016) ("[I]t is improper to read limitations from a preferred embodiment described in the specification . . . .") (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004)). At the same time, however, Huawei concedes that the patent claims at issue contain language that would be "readily understood in the industry." (Pl.'s Claim Construction Br. at 1.)

Second, for the 339 Patent, Huawei attempts to cure fatal drafting errors through claim construction. The errors include an ambiguous grammatical mistake and multiple means-plus-function terms with no corresponding structure. Huawei's attempts to preserve the validity of these claims are, once again, inconsistent with established Federal Circuit law. *See Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1357 (Fed. Cir. 2003) (errors in claims cannot be corrected where meaning subject to reasonable debate); *Williamson v. Citrix Online, LLC*, 792

[1] In fact, the patents disclose, at best, trivial alterations of well-established, published standards for telecommunications. But because this brief should focus on claim construction, not other issues, we do not address the many misstatements of facts unrelated to claim construction contained in Huawei's brief.

F.3d 1339, 1349 (Fed. Cir. 2015) (means-plus-function claims indefinite where no corresponding structure).

Defendants and Intervenors therefore respectfully request that the Court adopt their proposed claim constructions.

ARGUMENT

I. THE DISPUTED TERMS OF THE 617 AND 365 PATENTS

The 365 Patent and its continuation, the 617 Patent, are directed to the basic idea of storing certain data on a network storage device so that this information can be retrieved if there is a subsequent failure of a component. The patents focus specifically on the components of an IP Multimedia Subsystem ("IMS"), a well-known technology that had been standardized long before the patents and supports multiple access technologies for IP multimedia applications. As the patents acknowledge, the IMS components described in the patent—including the Proxy Call Session Control Function ("P-CSCF"), Interrogating Call Session Control Function ("I-CSCF"), Serving Call Session Control Function ("S-CSCF"), and Home Subscriber Server ("HSS")—were all well-known in the art. (*See* 617 Patent at 1:27-3:3 (describing IMS and the operation of the components "in the conventional art.").)

The patents purport to describe an improved process for recovering from failures. In the examples in the patent, an S-CSCF assigned to a mobile device stores certain data on the HSS so that this data can be retrieved if the S-CSCF fails, or fails and restarts, in responding to a service request (such as a call) from the mobile device. (*See* 365 Patent at 4:6-20, 5:26-37.) According to the patents, in the prior art, a mobile device simply re-registered with IMS after expiration of a registration timer when the S-CSCF could not be contained. (*Id*. at 3:4-41.)

The parties' disputes center on the terms directed to the data that is stored on the HSS for later retrieval, *i.e.*, "restoration data" and "restoring data" (in the 617 Patent) and "necessary data

which is required when a user service processing is restored," "necessary data," and "backup necessary data" (in the 365 Patent). Defendants and Intervenors contend that these terms are easily-understood, and do not need construction. In contrast, Huawei imports limitations from an embodiment in the specification and which are *already claimed* in dependent claims of the 617 Patent.

A. 617 Patent: "restoration data" | "restoring data"

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"restoration data" [Claims 1, 5, 7]	information necessary for the S-CSCF to handle traffic for a registered user, which includes at least a SIP URL of a P-CSCF assigned for a user device and a contact address of the user device	Plain and ordinary meaning, which is "data used when restoring processing of the user service"
"restoring data" [Claim 5]	information necessary for the S-CSCF to handle traffic for a registered user, which includes at least a SIP URL of a P-CSCF assigned for a user device and a contact address of the user device	Plain and ordinary meaning, which is "data used when restoring processing of the user service"

The parties dispute whether these terms should be construed consistent with their plain and ordinary meanings (as Defendants and Intervenors assert), or whether specific embodiments should be read into the claims (as Huawei asserts).

The terms "restoration data" and "restoring data" are simple, easily-understood, and have clear meanings that do not need to be construed. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) ("[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.") (citation omitted). Both the qualifier "restoration" in "restoration data" and the remainder of the claims indicate exactly what kind of data should be stored: the data used when restoring processing of the user service.

Independent claim 1, 5, and 7 of the 617 Patent each require an S-CSCF that requests "*restoration data* stored in a storage entity and *used for restoring the service that failed to the user*, wherein *the restoration data* is stored by the previous S-CSCF." (617 Patent at 20:32-37, 20:63-21:3, 21:20-22:3 (emphasis added).) Claims 1 and 7 also require receiving "the stored data that includes the subscription data of the user and *the restoration data*," whereas claim 5 is worded slightly differently, *i.e.*, "*the restoring data* is received." The specification is replete with statements about the stored data using the same or similar language to the claims, and even states that "[a] *core concept of the present invention* lies in that, when a user registers with an S-CSCF, *necessary data used in a restoring process* is backed up on a storage entity in a network . . . ." (*Id.* at 6:37-38; *see also id.* at 4:9-10, 4:50-51, 4:62-63, 4:59-60, 5:30-31, 6:53-54, 7:30-31, 18:11-12, 18:64-65, 18:67-19:1, 19:46-47.) Defendants and Intervenors' construction of "data used when restoring processing of the user service" (to the extent it is needed) is consistent with the claim language and specification.[2]

Huawei's construction, in contrast, violates several fundamental claim construction principles.

First, Huawei's construction impermissibly imports limitations from an embodiment into the claims. *See Global Equity Mgmt.*, 2016 WL 7416132, at *7 ("'Although the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.'") (quoting *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998)); *Phillips*, 415 F.3d at 1323. Huawei asserts that the terms must be construed "to ensure

[2] The use of the word "the" makes clear that both terms have the same meaning because the first recitation of "restoration data" provides the antecedent basis for the later recitations of "the

that the jury fully understands the claimed invention." (Pl.'s Claim Construction Br. at 11.) But Huawei does not explain why the jury cannot understand the purported invention without a narrow construction of "restoration data." The claims recite simple storage and retrieval steps, and do not require *any* specific implementation of *any* step. Indeed, the last limitation in independent claims 1 and 7 requires "restoring the service to the user" merely "based on" the restoration data, with no indication of what "based on" means. Claim 5 is even less detailed: the restoration of the service need only occur "after . . . the restoring data is received by the receiver from the storage entity." (617 Patent at 20:38, 21:3, 22:3.) Yet Huawei has not sought to construe these steps. Had either of the limitations that Huawei seeks to import into the claims been important to define the scope of the invention, as Huawei asserts (Pl.'s Claim Construction Br. at 11), the inventors could have—and should have—included them in the independent claims. Instead, the inventors deliberately chose to draft the claims more broadly in the independent claims.[3]

Second, contrary to Huawei's assertion that the patent "defines what its claims mean" (Pl.'s Claim Construction Br. at 12), there is no indication that this is so. "To act as its own lexicographer, ... the patentee *must clearly express an intent* to redefine the term" and the lexicography must appear "with reasonable *clarity, deliberateness, and precision*." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (emphasis added, citations omitted); *Global Equity Mgmt.*, 2016 WL 7416132, at *8. Here, the section of the

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restoration data" and "the restoring data."

[3] Huawei asserts that "[d]efendants are presumably trying to stretch the claims to cover prior art that the applicants do not purport to have invented." (Pl.'s Claim Construction Br. at 11.) To the contrary, Defendants and Intervenors are merely reading the claims as the inventors themselves chose to draft them. Moreover, it is Huawei (not Defendants and Intervenors) that seeks construction of these terms.

specification Huawei cites as an "explicit definition" of "restoration data" is anything but: that section describes Figure 5 as "an *embodiment* of the present invention," and merely states that User-Backup-Data "at least includes" the imported data limitations in this example. (617 Patent at 7:24-25, 7:33-40 (emphasis added).)[4] There is no effort to explain what else may be included, much less any clear expression of intent to redefine the claim. The *sole* example that Huawei cites of how this data might be used—indeed, the only example in the patent—is also labeled "an *embodiment*," shown in Figure 7(a), of the scenario in which a mobile device is *called* and the S-CSCF to which it is registered. (*Id.* at 13:59-65 (emphasis added).) The patent contains no mention of what data might be needed when the mobile device *initiates* the call (*i.e.*, is the *calling* party) and its S-CSCF fails, as shown in 6(a) through (d). (*See id.* at 8:10-13:17.) For this reason, Huawei's assertion that it is "vitally important that the jury understand the necessity" of including the imported limitations "because without them, the invention would not work as conceived and described" is simply not supported by the intrinsic evidence. (Pl.'s Claim Construction Br. at 12.) In fact, as shown above, the overwhelming evidence from the specification supports Defendants and Intervenors' broader construction.[5]

Third, Huawei's construction violates the doctrine of claim differentiation. Claims 4 and 10 (which Huawei fails to mention) both require that "the restoration data includes a session initiation protocol (SIP) URL of a proxy CSCF (P-CSCF) assigned for the user to enter the IMS subsystem and a contact address of the user"—the same limitations that Huawei seeks to import

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[4] The 617 Patent specification does not use the term "restoration data" at all.

[5] In connection with the 365 Patent terms, Huawei argues that the patent "defines what its claims mean by 'necessary data.'" (Pl.'s Claim Construction Br. at 12.) Yet Huawei inexplicably includes the phrase "information *necessary*" in its construction for both patents, while ignoring "restoration" and the other clauses in both patents' claims discussed above. Huawei does not explain why, if that term needs to be construed, it is included Huawei's constructions.

into the disputed terms. The inclusion of these limitations in dependent claims makes clear that they are *not* required in the independent claims because these limitations are the only differences between claims 4 and 10 and independent claims 1 and 7. As the Federal Circuit has confirmed, "[t]he doctrine of claim differentiation is at its strongest" where, as here, "the limitation that is sought to be 'read into' an independent claim already appears in a dependent claim" and "the limitation in dispute is the only meaningful difference between an independent and dependent claim." *InterDigital Comm., LLC v. ITC*, 690 F.3d 1318, 1324-25 (Fed. Cir. 2012). As discussed above, Huawei has not cited any "strong contrary evidence" necessary to overcome the presumption that the doctrine will apply. *Id*.

Finally, Defendants and Intervenors' construction (if it is needed) does not render the term "subscription data" redundant, as Huawei argues. (Pl.'s Claim Construction Br. at 13.) Unlike the "restoration data"—and contrary to Huawei's assertions—the claims *do not* recite that the subscription data is "used when processing the user service." (*Id*.) The patent does not indicate what role (if any) the subscription data has in the restoring the service to the user. The patent only explains that the subscription data is "recorded" at the S-CSCF when it is retrieved from the HSS. (617 Patent at 2:36-40.) In any event, Huawei's construction includes the phrase "information necessary for the S-CSCF to handle traffic for a registered user," which also likely captures "subscription data."

B. 365 Patent: "necessary data which is required when a user service processing is restored" | "necessary data" | "backup necessary data"

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"necessary data which is required when a user service processing is restored" [Claims 1, 27]	information necessary for the S-CSCF to handle traffic for a registered user, which includes at least a SIP URL of a P-CSCF assigned for a user device and a contact address of the user device	Plain and ordinary meaning, which is "data used when restoring processing of the user service"
"necessary data" [Claims 1, 27]	information necessary for the S-CSCF to handle traffic for a registered user, which includes at least a SIP URL of a P-CSCF assigned for a user device and a contact address of the user device	Plain and ordinary meaning, which is "data used when restoring processing of the user service"
"backup necessary data" [Claims 1, 27]	information necessary for the S-CSCF to handle traffic for a registered user, which includes at least a SIP URL of a P-CSCF assigned for a user device and a contact address of the user device	Plain and ordinary meaning, which is "data used when restoring processing of the user service"

The disputed terms of the 365 Patent similarly do not require construction.

As with "restoration data," these terms have simple, easily-understood meanings as recited in the claims themselves with language repeated throughout the specification. The term "necessary data which is required when a user service processing is restored" in claims 1 and 27 has the meaning embedded in it—data "required when a user service processing is restored."[6]

Huawei's construction should be rejected for the same reasons as discussed above. As with it construction of the 617 Patent terms, Huawei's construction improperly reads limitations from an embodiment, while ignoring the plain language of the claim. (*See* 365 Patent at 7:23-24,

[6] This term also provides the antecedent basis for the terms "*the necessary data*" backed up by the original S-CSCF in claim 1 and "*the backup necessary data*" in claim 27, dictating that all three terms must be given the same meaning. (365 Patent at 20:28-43, 27:3-14.)

7:28-40.) And contrary to Huawei's assertion that the patent "defines what its claims mean by 'necessary data'" (Pl.'s Claim Construction Br. at 12), the specification's discussion of the embodiment does not come close to satisfying the "exacting" standard established by the Federal Circuit for a finding that the inventors acted as their own lexicographers. As discussed above, the inventors did not "clearly express an intent" in the patent to define the terms. In any event, there was no need for the inventors to do so, because the claims themselves do not require any specific implementation and are easily understood.

Huawei also complains that Defendants and Intervenors "read 'necessary' out of the words of the claims" because they "define 'necessary data' for restoring a user's session as merely 'data that is used' for restoration." (Pl.'s Claim Construction Br. at 12.) This is not so: Defendants and Intervenors' construction—unlike Huawei's—merely gives effect to the meaning of "necessary data" *that is in the claims themselves*. "It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips*, 415 F.3d at 1312 (citations and quotations omitted). Only Defendants and Intervenors' construction is consistent with this bedrock principle.

II. THE DISPUTED TERMS OF THE 339 PATENT

The 339 Patent is directed to the basic concepts of error notification and recovery. Specifically, the patent focuses on these concepts in a "One Tunnel" configuration.

Prior to the asserted priority date of the 339 Patent, the 3GPP standards disclosed both two-tunnel and "One Tunnel" approaches for transmitting packet data between a radio network controller (RNC) and a Gateway GPRS Support Node (GGSN).

339 Patent, Fig. 1 (highlighting added)

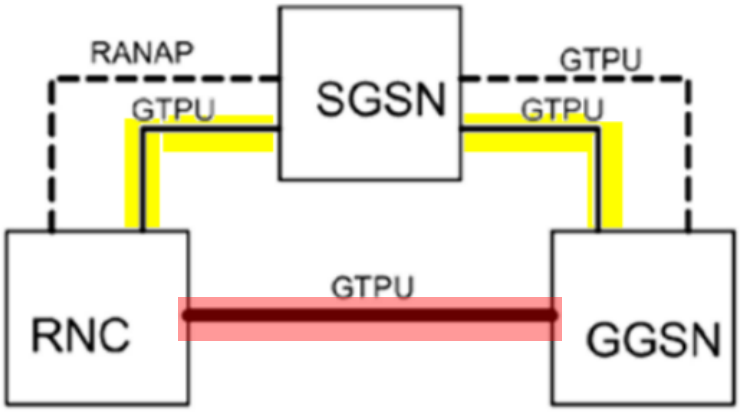

FIG. 1

As evident from Fig. 1 above, the two-tunnel approach (highlighted in yellow) used two tunnels to transfer packets between a GGSN and an RNC: (1) a first tunnel between the RNC and SGSN and (2) a second tunnel between the SGSN and the GGSN. The "One Tunnel" approach (highlighted in red), in contrast, used a single tunnel between the GGSN and RNC. Within this context, the 339 Patent describes and claims an obvious way to address downlink errors in the "One Tunnel" approach (*i.e.*, errors in the single downlink tunnel between GGSN and RNC).

A. "is error" term

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"is error" within phrase "receive a notification from a core network user plane anchor to recover a downlink data tunnel if a user plane using a One Tunnel technology ***is error***" [Claim 11]	is invalid	Indefinite/incapable of construction

The parties agree that this phrase does not make sense as written but dispute whether and how it can be fixed. The claim language and specification confirm that Huawei's proposed correction is subject to a reasonable debate. Thus, this phrase renders the claim indefinite.

Huawei acknowledges that the Court cannot correct errors in the claim language if "the correction is . . . subject to reasonable debate based on consideration of the claim language and the specification." *Novo Indus.*, 350 F.3d 1357; *see also Smith v. Orbcomm*, Case No. 2:14-cv-666, 2015 WL 5302815, at *13 (E.D. Tex. Sept. 10, 2015).

Here, although the error is obvious, there is a reasonable debate about the appropriate correction because the claim is subject to multiple possible corrections. Huawei's proposed correction is to replace the word "error" with "invalid" ("*if a user plane* using a One Tunnel technology *is invalid*"). This "correction" bases the recovery determination on the *status* of the tunnel ("*invalid*").

But an alternative correction—which is consistent with the intrinsic evidence—would base the recovery determination on an "error indication." (*See* Lanning Decl. ¶¶16-17.) In the other asserted claims and the specification, the determination to recover the downlink data tunnel requires an *error indication* sent from the access network device ("*if* a user plane *corresponding to the error indication* uses a One Tunnel technology"). (*See, e.g.*, 339 Patent, at claim 1; *see also* 3:65-4:3 (emphasis added) ("*In the embodiments of the present invention*, a core network user plane anchor . . . notifies a relevant core network control plane to recover the downlink data tunnel *after determining* that the user plane *corresponding to the error indication* uses a One Tunnel technology.").)

Given that there is a reasonable debate as to the appropriate correction, the claim is not subject to correction and is therefore invalid as indefinite. *See Novo Indus.*, 350 F.3d at 1358 ("If a correction cannot be made, the claim here is invalid for indefiniteness under section 112, ¶ 2.").

Significantly, there is no dispute that the patent *relates to* recovery of an *invalid* tunnel. Huawei tries to justify its proposed correction by pin-citing instances of the word "invalid." (Pl.'s Claim Construction Br. at 19.) For example, Huawei cites the following: "once the downlink data tunnel between the RNC and the GGSN is invalid . . . ." (339 Patent, at 5:6-7.) *But this passage—and all of Huawei's pin-cites—say nothing about the basis for determining whether a tunnel is invalid*. Simply referring to an "invalid" tunnel has nothing to do with the claim language at issue and plainly does not "'repeatedly and consistently' characterize[] [the claim term at issue] in a particular way." (Pl.'s Claim Construction Br. at 19 (quoting *Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1203 (Fed. Cir. 1992).)

Finally, Huawei has neglected to mention that it had a chance to fix its "poor grammar." (Pl.'s Claim Construction Br. at 18.) A certificate of correction issued for the 339 Patent on May 26, 2015—less than a year before Huawei brought the present action. The certificate of correction addressed two typos in the claim language (*e.g.*, changing "b" to "by") *but did not address the "is error" term at all*. If, as Huawei claims, the "'is error' [term] is mistaken claim language that is evident from the face of the patent" (Pl.'s Claim Construction Br. at 18), then Huawei's decision to raise this error with the Court rather than the PTO indicates concern that the correction is subject to reasonable debate.

Therefore, Defendants and Intervenors' proposal should be adopted.

B. The "Unit" Terms ("Receiving Unit . . ." / "Sending Unit . . ." / "Storage Unit . . .")

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"receiving unit . . . configured to receive an error indication of a data tunnel from an access network device . . . [and] further configured to receive an update packet data protocol (PDP) context request from the core network control plane" [Claim 9]	Plain and ordinary meaning. Not subject to 112, ¶ 6. If the Court determines this term is subject to 112, ¶ 6: **Functions**: receive (i) an error indication of a data tunnel from an access network device followed by (ii) an update packet data protocol (PDP) context request from the core network control plane **Structure**: receiving unit 801 in Fig. 8 of a core network user plane anchor, and equivalents thereof	**Function:** receive an error indication of a data tunnel from an access network device and receive an update packet data protocol (PDP) context request from the core network control plane **Structure:** The specification fails to set forth any algorithm or corresponding structure for the claimed function. Claim is indefinite.
"sending unit . . . configured to instruct a core network control plane to recover a downlink data tunnel" [Claim 9]	Plain and ordinary meaning. Not subject to 112, ¶ 6. If the Court determines this term is subject to 112, ¶ 6: **Functions**: instruct a core network control plane to recover a downlink data tunnel if a user plane corresponding to the error indication uses a One Tunnel technology **Structure**: sending unit 802 in Fig. 8 of a core network user plane anchor, and equivalents thereof	**Function:** instruct a core network control plane to recover a downlink data tunnel if a user plane corresponding to the error indication uses a One Tunnel technology **Structure:** The specification fails to set forth any algorithm or corresponding structure for the claimed function. Claim is indefinite.
"storage unit configured to update a corresponding PDP context according to the update PDP context request" [Claim 9]	Plain and ordinary meaning. Not subject to 112, ¶ 6. If the Court determines this term is subject to 112, ¶ 6: **Functions**: update a corresponding PDP context according to the update PDP context request **Structure**: storage unit 803 in Fig. 8 of a core network user plane anchor, and equivalents thereof	**Function:** update a corresponding PDP context according to the update PDP context request **Structure:** The specification fails to set forth any algorithm or corresponding structure for the claimed function. Claim is indefinite.

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"receiving unit . . . configured to receive a notification from a core network user plane anchor to recover a downlink data tunnel" [Claims 11 and 12]	Plain and ordinary meaning. Not subject to 112, ¶ 6. If the Court determines this term is subject to 112, ¶ 6: **Functions**: receive a notification from a core network user plane anchor to recover a downlink data tunnel if a user plane using a One Tunnel technology [is error] **Structure**: receiving unit 801 in Fig. 8 of a core network control plane, and equivalents thereof	**Function:** receive a notification from a core network user plane anchor to recover a downlink data tunnel if a user plane using a One Tunnel technology is error **Structure:** The specification fails to set forth any algorithm or corresponding structure for the claimed function. Claim is indefinite.
"sending unit is configured to send a radio access bearer (RAB) assignment request to an access network device . . . [and] further configured to send an update packet data protocol PDP context request to the core network user plane anchor to update corresponding PDP context" [Claim 11]	Plain and ordinary meaning. Not subject to 112, ¶ 6. If the Court determines this term is subject to 112, ¶ 6: **Functions**: send (i) a radio access bearer (RAB) assignment request to an access network device followed by (ii) an update packet data protocol PDP context request to the core network user plane anchor to update corresponding PDP context **Structure**: sending unit 802 in Fig. 8 of a core network control plane, and equivalents thereof	**Function:** send a radio access bearer (RAB) assignment request to an access network device and send an update packet data protocol PDP context request to the core network user plane anchor to update corresponding PDP context **Structure:** The specification fails to set forth any algorithm or corresponding structure for the claimed function. Claim is indefinite.

The parties dispute whether the "unit" terms are means-plus-function terms subject to § 112, ¶ 6, and if so, whether the specification discloses a sufficient corresponding structure. Defendants and Intervenors contend that the terms are means-plus-function because a person of ordinary skill would not understand the identity of these components *in light of the functions they perform in the claims* and that the terms are indefinite because the 339 Patent's specification does not recite sufficient structure.

The overall means-plus-function analysis is a two-step process, and a different standard applies to each step. *Williamson*, 792 F.3d at 1348-49.

1. Step One: The "Unit" Terms are Means-Plus-Function Terms

To decide whether a claim is drafted in means-plus-function format, "[t]he standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson*, 792 F.3d at 1349.

Here, the "unit" terms should be construed as a means-plus-function limitation governed by 35 U.S.C. § 112, ¶ 6 because they do not meet this standard. *See also Via Vadis, LLC v. Buffalo Americas, Inc.*, No. A-14-CV-808-LY, 2016 WL 5239626, at *5 (W.D. Tex. Sept. 20, 2016) (citing *Williamson*, 792 F.3d at 1350) ("The Federal Circuit has rejected the argument that replacing the word 'means' with 'unit' or 'device' takes the limitations outside the bounds of Section 112(f)."); *Saint Lawrence Commc'ns LLC v. ZTE Corp.*, No. 2:15-CV-349, 2016 WL 6275390, at *19 (E.D. Tex. Oct. 25, 2016). Though these terms do not employ the word "means," the presumption against application of § 112, ¶ 6 is not "strong" and does not require "any heightened evidentiary showing." *Williamson*, 792 F.3d at 1349. The presumption "can be overcome if a party can demonstrate that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function. *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371-72 (Fed. Cir. 2015) (internal quotations omitted) (affirming district court's conclusion that "compliance mechanism" was a means-plus-function term). In undertaking this analysis, the Court asks "if the claim language, read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6." *Id.*

To help determine whether a claim term connotes structure, courts examine whether it has an understood meaning in the art. *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004). As Mr. Lanning confirms, each of the disputed terms here contains the nonce word "unit," coupled with a function, which combined are not terms that have an understood meaning in the art. (Lanning Decl. at ¶25.) Further, these claimed "units" do not belong to a class of structures either. (Lanning Decl. at ¶25.) As the Federal Circuit has stated, "[g]eneric terms such as 'mechanism,' 'element,' 'device,' and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word 'means.'" *Williamson*, 792 F.3d at 1350. Like the term "module" in *Williamson*, the term "unit" in claim 11 of the 339 Patent "does not provide any indication of structure because it sets forth the same black box recitation of structure for providing the same specified function as if the term 'means' had been used." *Id.* In *Williamson*, the Federal Circuit agreed that "'module' is simply a generic description for software or hardware that performs a specified function," and this is all the "unit" terms convey in the 339 Patent. *Id.* (*See also* Ex. C, at 42-48, 50-51, 95-106, 109-10, 181-83 (Huawei's Infringement Contentions) (asserting infringement of the "unit" terms based solely on the alleged performance of the claimed functions).)

The claimed "sending unit," "receiving unit," and "storage unit" must each be a component or set of components within a "communication device," such as the GGSN or SGSN in the embodiments represented by Figure 7. Figure 8 of the 339 Patent is a "schematic structural view" of a "device" according to the purported invention—but it contains no structural details. (Lanning Decl. ¶26.) Figure 8 only discloses generic boxes for the "sending unit," "receiving unit," and "storage unit" within the GGSN. There is no indication of what is inside, how it works, or how it is supposed to perform the function. A box with a generic label is not structure.

339 Patent, Fig. 8

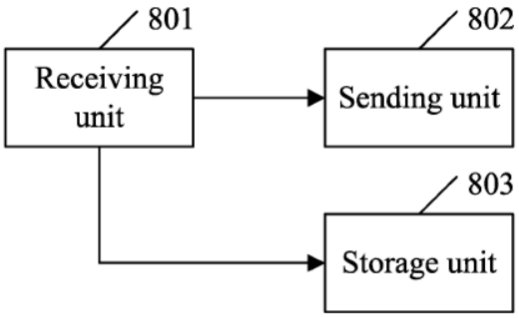

FIG. 8

Moreover, nothing in the specification, prosecution history, or other extrinsic evidence sheds light on whether a person of ordinary skill in the art would understand the "unit" terms to connote structure. The only description of the boxes in Figure 8 in the patent specification refers to the "unit" terms purely in terms of the function performed. (*See* 339 Patent, at 10:45-48.) *See also Verint Sys. Inc. v. Red Box Recorders Ltd.*, 166 F. Supp. 3d 364, 381 (S.D.N.Y. 2016) (finding that a black-box figure and its functional description did not connote sufficient structure). As Mr. Lanning confirms, these functional descriptions do nothing to connote structure to a person of ordinary skill in the art. (Lanning Decl. at ¶26.)

Finally, while Figure 8 generically shows, at a very high level, how the different "unit" terms are connected, nothing else in the written description of the asserted patent discloses any structure for what lies inside the generic boxes. *See Media Rights*, 800 F.3d at 1372 ("Nothing in the written description of the [asserted patent] adds sufficiently to the meaning of the term's structure; it only describes the term's function and interaction with other parts in the system.").

Significantly, the meaning of the "unit" terms depends on their context. While a "receiver" or "transmitter" may connote structure to a POSITA in a mobile device in certain circumstances, this is clearly not the same structure as claimed by Huawei. (Lanning Decl. at ¶24.) In the context of communications between a mobile device and a base station, receivers

and transmitters are known structures for the transmission of radio waves. These structures are available as components for radio communication, but radio communication plays no part in the 339 Patent, which involves the packet core network. (Lanning Decl. at ¶24.) Network elements within a packet core network (*e.g.*, GGSNs and SGSNs) are computer servers that communicate with other network elements (*e.g.*, the RNC or "access network device") over a wired connection via Internet Protocol. Radio communications play no part in the 339 Patent. (Lanning Decl. at ¶24.) Thus, the claimed "sending" and "receiving" units are *not those typically associated with wireless devices*. (Lanning Decl. at ¶24.)

Moreover, even if the "unit" terms had a common understanding in the context of a packet core network, a person of ordinary skill would not understand the identity of these components in light of the functions they perform in the claims. (Lanning Decl. at ¶27.) In the context of a SGSN and a GGSN, for example, the 339 Patent uses the terms "sending unit" and "receiving unit" in a unique fashion:

Unit	Claim 9	Claim 11
Receiving unit	configured to receive an error indication of a data tunnel from an access network device . . .[and] further configured to receive an update packet data protocol (PDP) context request from the core network control plane	configured to receive a notification from a core network user plane anchor to recover a downlink data tunnel
Sending unit	configured to instruct a core network control plane to recover a downlink data tunnel	sending unit is configured to send a radio access bearer (RAB) assignment request to an access network device . . . [and] further configured to send an update packet data protocol PDP context request to the core network user plane anchor to update corresponding PDP context

A person of ordinary skill would be unable to recognize any sending (or receiving) unit that performs the functionality recited in claims 9 and 11. (Lanning Decl. at ¶28.) Specifically, a

person of ordinary skill would not be able to understand whether the claimed sending and receiving units refer to software, hardware, or something else entirely. (Lanning Decl. at ¶28.) The claimed "sending unit" and "receiving] unit," therefore, would not have "an understood meaning in the art." *Linear Tech. Corp.*, 379 F.3d at 1320.

The term "storage unit" is also used uniquely. *See* claim 9.

Unit	Claim 9	Claim 11
Storage unit	configured to update a corresponding PDP context according to the update PDP context request.	N/A

A person of ordinary skill in the art would be unable to identify a well-understood structure within a GGSN that performs the function above. (Lanning Decl. at ¶30.) While in certain contexts storage may refer to memory (which can be updated), memory cannot be "configured to update" anything as required by claim 9. (Lanning Decl. at ¶30.) The claimed "storage unit," therefore, would not have "an understood meaning in the art." *Linear Tech. Corp.*, 379 F.3d at 1320.

No other evidence of structure is found for these terms in the patent or the understanding of those in art. (Lanning Decl. at ¶31.) A person of ordinary skill in the art would not even understand if the "unit" terms are directed to software or hardware. (Lanning Decl. at ¶¶ 28, 30, 31.) Therefore, the "unit" terms are properly considered as 112, ¶ 6 means-plus-function terms.

2. Step Two: The "Unit" Terms Lack Corresponding Structure

Having established that the "unit" terms are means-plus-function limitations, the "unit" terms are indefinite because the 339 Patent specification provides no corresponding structure for the claimed functions. According to the 339 Patent, "the present invention can be implemented by means of software plus a necessary universal hardware platform, which definitely can also be

implemented by hardware" (339 Patent, at 11:24-26). *But the 339 Patent never identifies what hardware or software make up the claimed "unit[s]" within the "communication device" in claim 9 or 11*. For example, if these "unit" terms are construed as hardware, the 339 Patent specification does not point to any hardware (or any other structures) that could perform the stated functions. *See Williamson*, 792 F.3d at 1351. Indeed, like the claims, the specification describes the "sending unit," "receiving unit," and "storage unit" by their functions. Assuming the "unit" terms are construed as software, alternatively, the specification neither discloses a processor that executes the corresponding function nor an algorithm for the claimed functionality. *See Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (requiring disclosure of an algorithm when it is not disputed that the claims are drafted in means-plus-function format); *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999) (same). "The point of the requirement that the patentee disclose particular structure in the specification and that the scope of the patent claims be limited to that structure and its equivalents is to avoid pure functional claiming." *Aristocrat*, 521 F.3d at 1333. Yet, these claims are purely functional.

The lack of structure may be best exemplified by Huawei's own proposed identification of structure in the event the terms are construed as means-plus-function. Specifically, Huawei's failure to identify any specific structure in its briefing or in the patent for any of the "unit" terms reinforces the fact that no such structure exists. Rather than identify any actual structure, Huawei merely points to the empty, generic boxes in Figure 8 (receiving unit 801, sending unit 802, and storage unit 803). As discussed above, Figure 8 of the 339 Patent sheds no light on the structural element that would perform the recited functions. Huawei provides no explanation for what these structures are or how they perform different functions in different devices. *See also Selex*

Commc'ns, Inc. v. Google Inc., No. 1:09-CV-2927-TWT, 2013 WL 1412334, at *5 (N.D. Ga. Apr. 8, 2013) (citing *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 518 (Fed. Cir. 2012) ("'[B]lack boxes' that simply restate the function and are insufficient to disclose an algorithm.")).

Therefore, Defendants and Intervenors' proposed constructions should be adopted and these claim limitations should be held indefinite.

C. "Notifying . . . "/"Notification . . . "/"Notify . . . " terms

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"notifying, by the core network user plane anchor, a core network control plane to recover a downlink data tunnel" [Claims 1, 3]	the core network user plane anchor instructing a core network control plane to recover a downlink data tunnel	Plain and ordinary meaning, which is "sending a notification message from the core network user plane anchor to a core network control plane to recover the tunnel between the core network user plane anchor and the access network device"
"notification from a core network user plane anchor to recover a downlink data tunnel" [Claims 11]	instruction from a core network user plane anchor to recover a downlink data tunnel	Plain and ordinary meaning, which is "message from the core network user plane anchor to a core network control plane notifying the core network control plane to recover the tunnel between the core network user plane anchor and the access network device"
"notify a core network control plane to recover a downlink data tunnel" [Claim 14]	instruct a core network control plane to recover a downlink data tunnel	Plain and ordinary meaning, which is "sending a notification message from the core network user plane anchor to a core network control plane to recover the tunnel between the core network user plane anchor and the access network device"

Claim Term	Huawei's Construction	Defendants and Intervenors' Construction
"notification" [Claim 14]	instruction to recover the downlink data tunnel	Plain and ordinary meaning, which is "the notification message from the core network user plane anchor to a core network control plane to recover the tunnel between the core network user plane anchor and the access network device"

The parties dispute whether the asserted claims should be rewritten to replace the word "notifying" (or "notification" or "notify") with the word "instructing" (or "instruction" or "instruct"). A jury would understand the meaning of "notify," so Defendants and Intervenors contend that these terms should be given their plain and ordinary meaning as provided in the chart above.

Here, the disputed terms refer to "notifying." "Notify" is a well-understood term, and Huawei has not provided a sufficient reason to depart from its chosen claim language. Moreover, changing the claim language from "notifying" to "instructing" will confuse the jury. Huawei's construction implies that a "notification . . . to recover" is different than an "instruction . . . to recover" but provides no clarity on what that difference is. This would harm the jury's ability to understand exactly *what* Huawei has claimed. *See, e.g., Ossur HF v. iWalk, Inc.*, 2013 WL 4046709, at *21 (D. Mass. Aug. 8, 2013) (acknowledging that there is potential for jury confusion when a construction replaces a "readily understood" word with another).

Huawei also mischaracterizes Defendants and Intervenors' proposed construction as "merely sending a 'message'" without the intention of the message to recover the downlink data tunnel between the GGSN and the RNC. (Pl.'s Claim Construction Br. at 16.) In reality, Defendants and Intervenors' proposal expressly requires that the notification message is sent "to recover" the downlink tunnel. Thus, it is Huawei's proposed construction that breeds confusion

by replacing "notify" with "instruct" while keeping the "to recover" language. For example, the specification of the 339 Patent refers to the notification message as a recovery "request." (*See, e.g.*, 339 Patent, at Abstract ("notifies . . . to request recovering"); *id.* at 9:11 ("user plane setup request"); *id.* at Fig. 6.) Huawei's proposed construction would only create confusion as to whether such a "request" constitutes an "instruction . . . to recover" or a "notification . . . to recover" and risks the jury inadvertently reading the claims inconsistently with the claim language and embodiments in the specification.

Huawei also contends, incorrectly, that Defendants and Intervenors are attempting to read out "downlink" from the claim language. Defendants and Intervenors propose the plain and ordinary meaning, which necessarily includes the term "downlink." Defendants' and Intervenors' construction simply identifies the downlink tunnel referenced in the rest of the claim (*i.e.*, the "tunnel between the core network user plane anchor and the access network device"). Defendants and Intervenors would have no objection to modifying their construction to replace "the tunnel" with "the downlink tunnel."

CONCLUSION

For the foregoing reasons, Defendants and Intervenors respectfully request that their positions be adopted.

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CERTIFICATE OF SERVICE

I hereby certify that on January 31, 2017, I caused the foregoing document to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to all registered participants.

/s/ John D. Haynes
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